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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/533,137

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Hidesato Mano

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EXAMINER

HAUTH, GALEN H

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

05/10/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/533,137	Applicant(s) MANO, HIDESATO	
	Examiner GALEN HAUTH	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 5-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 5-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/15/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Acknowledgment is made to applicant's amendment of claim 1 and the cancellation of claim 4. No new matter has been added.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 1, 3, and 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura (PN 6245182) in view of Sato et al. (Pub No 2002/0098326).

- a. With regards to claim 1, Nakamura teaches an active energy ray curable resin composition which comprises a polymer having a methacryl equivalent weight of from 100 to 300 g/eq, a hydroxyl value of from 20 to 500, and a weight average molecular weight of 5,000 to 50,000. Nakamura more specifically teaches that the methacryl polymer is glycidyl methacrylate which is known by

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one of the ordinary skill in the art to comprise epoxy groups (col 3 ln 34-52).

Nakamura teaches that the reaction product obtained by poly-addition of glycidyl methacrylate based polymer and alpha, beta unsaturated monocarboxylic acid (the polymer is the reaction product of the addition of a monocarboxylic acid having an unsaturated double bond to a polymer having an epoxy group) (col 3 ln 49-52). Nakamura teaches the inclusion of a polyfunctional isocyanate (heat curing agent) for the purposes of partially crosslinking the material due to the reaction of the hydroxyl compounds with the crosslinking agent (col 8 ln 1-11).

b. Sato teaches an image transfer medium in which a thermoplastic resin and crosslinking agent are used (abstract). Sato teaches that known crosslinking agents activated by heat include isocyanate compounds as well as phenol resins, epoxy compounds, metal alkoxides, silane compounds, and various other equivalents (§ 0038). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a crosslinking agent other than isocyanate in the compound of Nakamura as phenol, epoxy, metal alkoxides, and silane compounds are art recognized equivalents as taught by Sato. The equivalence of the compounds presents a reasonable expectation of success and would have been obvious to one of ordinary skill in the art through routine experimentation.

c. With regards to claim 3, Nakamura teaches that the glycidyl methacrylate based polymer may be a homopolymer of glycidyl methacrylate or a copolymer of glycidyl methacrylate (col 3 ln 53-56).

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- d. With regards to claim 5, Nakamura teaches using a photopolymerization initiator (col 8 ln 60-62).
- e. With regards to claims 6 and 7, Nakamura teaches of a transfer material comprising a protective layer on a releasable sheet (col 3 ln 30-46, col 4 ln 14-27).
- f. With regards to claim 8, Nakamura teaches a method for producing a molded article comprising the steps of (col 3 ln 62-64, col 4 ln 14-23).
 - i. Adhering transfer material onto a substrate of a molded article (col 3 ln 64-67);
 - ii. Releasing the substrate sheet (removing the releasable base sheet) (col 4 ln 1)
 - iii. Irradiating with an active energy ray (irradiating the surface of the molded article with an active energy ray) (col 4 ln 2).
- g. With regards to claim 9, Nakamura et al. teaches a method of producing a molded article comprising the steps of (col 4 ln 3-6)
 - iv. Placing a transfer material in a mold (applying a transfer material to the inside of a mold) (col 4 ln 7-8).
 - v. Injecting a resin into a cavity for filling, molding, and simultaneously adhering the transfer material to the surface of the molded resin (filling a cavity of the mold with a resin by injection to thereby form a molded article and adhering the transfer material to a surface of the molded article) (col 4 ln 8-11);

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- vi. Releasing the substrate sheet (removing the releasable base sheet) (col 4 ln 12)
- vii. Irradiating with an active energy ray (irradiating the surface of the molded article with an active energy ray) (col 4 ln 13).

Response to Arguments

5. Applicant's arguments filed 02/22/2010 have been fully considered but they are not persuasive.

- a. With regards to applicant's argument that Sato does not teach the equivalence of polyisocyanate compounds with the compounds of independent claim 1, this argument is not persuasive. Sato teaches that known crosslinking agents induced by heat in the art include polyisocyanate compounds, metal alkoxides, and silane compounds (¶ 0038). Thus, Sato establishes that the art recognized these known elements for the same functional purpose of crosslinking. It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute known elements that achieve the same result. See MPEP 2143 B. While Sato does teach that polyisocyanate may be used in a preferred embodiment in paragraph 42, nonpreferred and alternative embodiments still constitute prior art as a reference is prior art for all that it contains. A preferred embodiment does not constitute teaching away. See MPEP 2123 II.
- b. With regards to the argument that Nakamura teaches away from using a compound that is not isocyanate, this argument is not persuasive as Nakamura

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teaches that the purpose of the isocyanate composition is to form a crosslinked composition with the hydroxyl groups present in the polymer compound (col 8 In 8-11). Nakamura does not explicitly state that other crosslinking agents could not be used in the place of an isocyanate composition. Thus, given a teaching of the equivalence of isocyanate with other crosslinking compositions, as shown in the rejection of claim 1 above, one of ordinary skill in the art at the time the invention was made would have found it obvious to experiment with various equivalents for crosslinking in the composition of Nakamura.

c. With regards to applicant's argument of unexpected results, this argument is not persuasive. There is insufficient objective evidence commensurate in scope with the prior art and/or the instant claims, as the table in the specification compares using a polyisocyanate in comparative example 5 against a chelate compound or chelate compound and silane agent in examples 7 and 8 and respectively. Given that Nakamura in view of Sato teaches substituting silane compounds or metal alkoxides for polyisocyanate, a proper set of objective evidence must compare simple substitution of these compounds for the polyisocyanate alone and produce an unexpected result, and more than one trial would be required to establish that the results are repeatable. Additionally, this result must be shown to be unexpected.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GALEN HAUTH whose telephone number is (571)270-5516. The examiner can normally be reached on Monday to Thursday 8:30am-5:00pm ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571)272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/GHH/

/Christina Johnson/
Supervisory Patent Examiner, Art Unit 1791